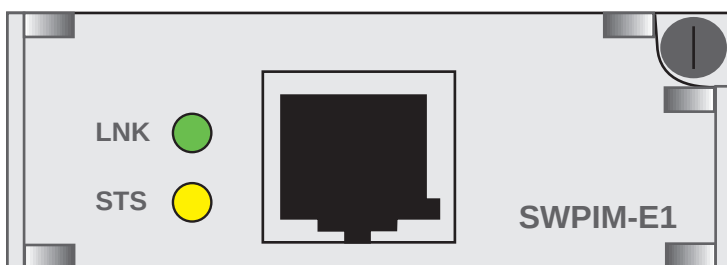


SWPIM-E1

Installation Guide





Only qualified personnel should perform installation procedures.

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Application of Council Directive(s): **89/336/EEC**
73/23/EEC

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Manufacturer's Address: **35 Industrial Way**
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Conformance to Directive(s)/Product Standards: **EC Directive 89/336/EEC**
EC Directive 73/23/EEC
EN 55022
EN 50082-1
EN 60950

Equipment Type/Environment: **Networking Equipment, for use in a**
Commercial or Light Industrial
Environment.

We the undersigned, hereby declare, under our sole responsibility, that the equipment packaged with this notice conforms to the above directives.

Manufacturer

Mr. Ronald Fotino

Full Name

Compliance Engineering Manager

Title

Rochester, NH, USA

Location

Legal Representative in Europe

Mr. J. Solari

Full Name

Managing Director - E.M.E.A.

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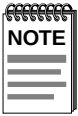
INTRODUCTION



Only qualified personnel should perform installation procedures.

Welcome to the Cabletron Systems *SWPIM-E1 Installation Guide*. This manual gives an introduction to the SWPIM-E1, lists features and capabilities, details the cabling pinouts, and explains how to install the SWPIM-E1.

The SWPIM-E1 provides a full and fractional E1 interface for a host platform designed to receive the SWPIM (Sliding WAN Physical Interface Module) architecture.



The term “host platform” may be used to indicate the device or module, such as the SSR-600 or the HSIM-SSR-600, into which the SWPIM-E1 is installed.

USING THIS GUIDE

Read through this guide completely to understand the features and capabilities of the SWPIM-E1.

A general working knowledge of WAN and Ethernet and IEEE 802.3 data communications networks and their physical layer components is helpful before using the SWPIM-E1.

STRUCTURE OF THIS GUIDE

This guide is organized as follows:

This **Introduction** provides preliminary information that will aid in using this manual, lists technology and user’s guides that may help the user to set up and manage the SWPIM-E1, gives an overview of the SWPIM-E1 and its features, and information on how to get help from Cabletron Systems.

Chapter 1, **Installation**, provides instructions on how to install the device into a host platform, and gives the LED indications.

Appendix A, **Specifications**, contains information on functionality and operating specifications, connector pinout for the SWPIM-E1, environmental requirements, and physical properties.

SWPIM-E1 FEATURES

Interfaces

The SWPIM-E1 can be installed into any Cabletron Systems product that supports the SWPIM architecture, such as the SSR-600, or the HSIM-SSR-600. Using software, the SWPIM-E1 is user-manageable through the host platform. Refer to the host platform software user's manual for information on how to configure the SWPIM-E1 using software.

The SWPIM-E1 uses a single RJ48 connector supporting the E1 interface. Refer to Appendix A for the Cabletron Systems part number and pin assignments for the E1 interface cable.

Internal CSU/DSU

The SWPIM-E1 provides an E1 interface that includes a built-in Channel Service Unit/Digital Service Unit (CSU/DSU) for direct connection to an E1 line. This SWPIM supports both full E1 and fractional E1 using 64 Kbps timeslots.

The E1 Channel Service Unit (CSU) meets the following specs:

- Line Rate: 2.048 Mbps +/-50bps
- Transmits according to G.703 pulse shaping for both short and long haul
- Receiver Sensitivity: +0 dB to -43 dB
- Meets G.823 for jitter tolerance
- Local Timing Capability
- Supports Long Haul or Short Haul capability

The E1 Data Service Unit (DSU) meets the following specs:

- E1 Framing Formats: FAS and CAS, with or without CRC4
- FAS mode: Payload bandwidth is 1.984 Mbps
- CAS mode: Payload bandwidth is 1.920 Mbps (channel 16 is reserved for the signaling channel)
- Line Coding: HDB3 or AMI
- Supports both national and international bits for datalink

LEDs and Statistics

The SWPIM-E1 has two LEDs, to indicate link and status conditions. Refer to Chapter 1 for more details.

The SWPIM-E1 also gathers statistics, such as bipolar violations and frame errors, that are available through the management software.

RELATED MANUALS

The following Cabletron Systems manuals may help the user to set up and manage the SWPIM-E1:

SSR-600 Installation Guide

HSIM-SSR-600 Installation Guide

6C105 SmartSwitch 6000 Overview and Setup Guide

Ethernet Technology Guide

Cabling Guide

The manuals referenced above can be obtained on the World Wide Web in Adobe Acrobat Portable Document Format (PDF) at the following site:

<http://www.cabletron.com/>

Cabletron Systems applicable software manuals for the SSR-600 and the HSIM-SSR-600 host platforms (Cabletron Routing Software Manuals):

Bridging Configuration Guide

Event Logging System Message Guide

Network Interface Operations Guide

Routing Protocols Reference Guide

Routing Protocols User's Guide

System Software Guide

ClearVISN Routing Configurator User's Guide

Systems Network Architecture Guide

Quick Reference Guide

DTF (Data Trace Facility) User Guide

DOCUMENT CONVENTIONS

The following conventions may be seen in this document:



Note symbol. Calls the reader's attention to any item of information that may be of special importance.



Tip symbol. Conveys helpful hints concerning procedures or actions.



Caution symbol. Contains information essential to avoid damage to the equipment.



Electrical Hazard Warning symbol. Warns against an action that could result in personal injury or death due to an electrical hazard.

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Internet mail	support@cabletron.com
FTP	ftp://ftp.cabletron.com/
Login	<i>anonymous</i>
Password	<i>your email address</i>
To send comments or suggestions concerning this document, contact the Cabletron Systems Technical Writing Department via the following email address: TechWriting@cabletron.com <i>Make sure to include the document Part Number in the email message.</i>	

Before calling Cabletron Systems, have the following information ready:

- Your Cabletron Systems service contract number
- A description of the failure
- A description of any action(s) already taken to resolve the problem (e.g., changing mode switches, rebooting the unit, etc.)
- The serial and revision numbers of all involved Cabletron Systems products in the network
- A description of your network environment (layout, cable type, etc.)
- Network load and frame size at the time of trouble (if known)
- The device history (i.e., have you returned the device before, is this a recurring problem, etc.)
- Any previous Return Material Authorization (RMA) numbers

CHAPTER 1

INSTALLATION



Only qualified personnel should install the SWPIM-E1.

This chapter covers the following items:

- Unpacking the SWPIM-E1 (Section 1.1)
- Installing the SWPIM-E1 into the host platform (Section 1.2)
- A description of the LANVIEW LED indications (Section 1.3)
- Connecting the SWPIM-E1 to the network (Section 1.4)
- What to do once the SWPIM-E1 is installed (Section 1.5)

1.1 UNPACKING THE SWPIM-E1

Use static electricity precautions when handling the SWPIM-E1.

1. Open the packing box and remove the SWPIM-E1.
2. Attach the antistatic strap (refer to the instructions in the antistatic wrist strap package) before removing the SWPIM-E1 from the antistatic packaging.



Failure to observe static safety precautions could cause damage to the SWPIM-E1. Follow static safety handling rules and wear the antistatic wrist strap shipped with the SWPIM-E1.

Do not cut the non-conductive bag to remove the device. Damage could result from sharp objects contacting the device or components.

3. Verify that the SWPIM-E1 is undamaged. Refer to Getting Help if there is any damage to the device. Do not attempt to install the SWPIM-E1 if it is damaged.

1.2 INSTALLING THE SWPIM-E1

The SWPIM-E1 can be installed in any available open slot in the host platform. To install the SWPIM-E1, proceed as follows:

1. Unfasten the screw and remove the blank panel covering the slot in the host platform in which the SWPIM-E1 will be installed. See Figure 1-1.



It is not necessary to power down the host platform to install the SWPIM-E1.

2. Ensure that the antistatic wrist strap is attached and used as recommended.



Observe all precautions to prevent damage from Electrostatic Discharge (ESD).

3. Remove the SWPIM-E1 from the plastic bag. (Save the bag in the event the device must be removed from the host platform).
4. Hold the SWPIM-E1 with the faceplate facing away (right side up) from the host platform. The 40-pin connector should be facing towards the empty slot, with the wide part of the connector oriented down, as shown in Figure 1-1.
5. Locate the rail guides inside the slot in which the SWPIM-E1 will be installed. See Figure 1-1.
6. Install the SWPIM-E1 in the host platform by aligning the SWPIM-E1 with the rail guides in the host platform and sliding it in. Take care that the SWPIM-E1 slides in straight and properly engages the backplane host connector. Do not force the device.

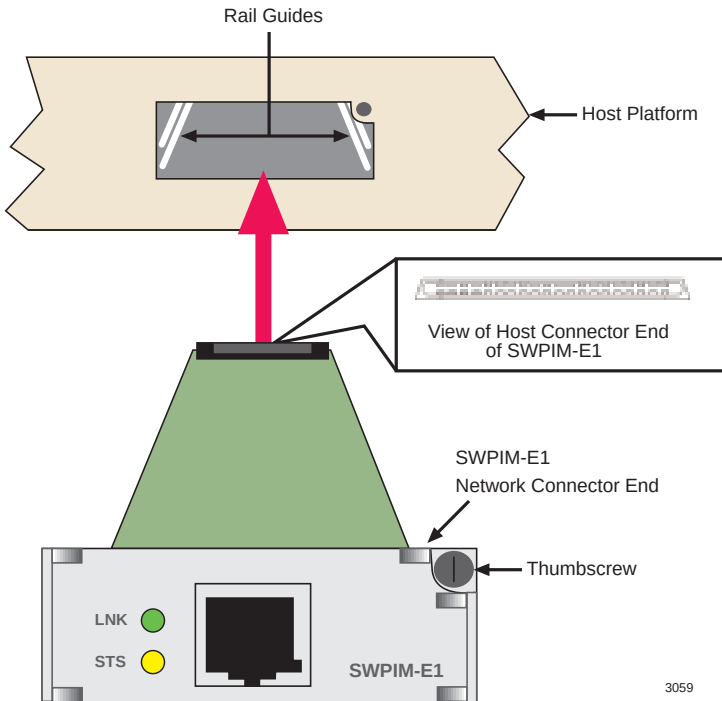


Figure 1-1 Installing the SWPIM-E1 into the Host Platform

7. Fasten the SWPIM-E1 with the thumbscrew.
8. Replace power to the host platform, if necessary. Check to see that the host platform LED indicators go to their normal configuration. If they do not, remove the SWPIM-E1 from the host platform and contact Cabletron Systems.



Do not connect any WAN cables until the software configuration for the SWPIM-E1 has been done. The phone company can shut down a line that has an unconfigured connection on it.

9. The SWPIM-E1 must be configured before the WAN connection is made. Once the SWPIM-E1 has been configured, the host platform must undergo a soft or hard restart in order for the SWPIM-E1 to be recognized and for traffic to pass. Refer to the appropriate software manual to configure the SWPIM-E1.

1.3 LANVIEW LED INDICATIONS

Refer to Table 1-1 for the link LED indications for the SWPIM-E1.

Table 1-1 Link LED

Color	Indication
Off	Disabled or Not Configured
Red	No Link
Amber	Transmit or Receive Traffic
Green	Port is Active
Blinking Green	Port is in Test Mode

Refer to Table 1-2 for the status LED indications for the SWPIM-E1.

Table 1-2 Status LED

Color	Indication
Off	Normal or Disabled
Red	Receive Carrier Loss (RCL)
Amber	Receive Remote Alarm (RRA) Receive Signaling All Zeros (RSA0)
Blinking Amber	Loopback Test Mode
Blinking Green	Receive Signaling All Ones (RSA1) Receive Unframed All Ones (RUA1)

1.4 CONNECTING TO THE NETWORK

Figure 1-2 depicts a typical configuration for the SWPIM-E1.

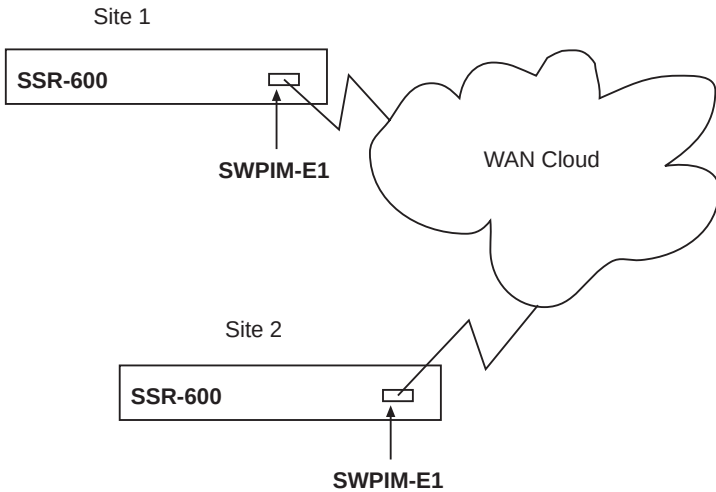


Figure 1-2 SWPIM-E1 Typical Configuration

1.5 COMPLETING THE INSTALLATION

After installation, the SWPIM-E1 will need to be configured for the network. Refer to the host platform software documentation to set up and manage the SWPIM-E1.

APPENDIX A

SPECIFICATIONS

This section describes the environmental specifications and safety and approval requirements for the SWPIM-E1. Cabletron Systems reserves the right to change these specifications at any time without notice. Pinouts and the E1 cable are also listed in this appendix.

A.1 PHYSICAL PROPERTIES

Dimensions:	1.91 H x 5.40 W x 19.05 D (cm) 0.75 H x 2.125 W x 7.50 D (in)
Weight (Unit):	.068 kg (0.15 lb)
Nominal current draw on +5V supply from host platform:	150 mA
MTBF (Predicted):	10,119,716 hours

A.2 NETWORK INTERFACE

The connector for the RJ48 network port can be seen in Figure A-1:

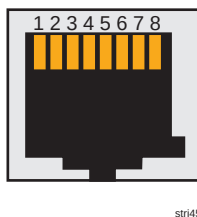


Figure A-1 RJ48 Pinout

A.2.1 Pinouts for the E1 Interface Connector

The network interface pin assignments for the network connector are listed in Table A-1.

Table A-1 Pinouts for the E1 Interface Connection

Pin	Signal
1	Receive Ring
2	Receive Tip
3	Shield Ground
4	Transmit Ring
5	Transmit Tip
6	Shield Ground
7	Shield Ground
8	Shield Ground

A.3 E1 CABLE ASSEMBLY

Table A-2 lists Cabletron Systems part numbers for the interface cables for the SWPIM-E1. A standard 20-foot cable is available or the customer may specify the length of cable when ordering.

Table A-2 SWPIM-E1 Cable Part Numbers

Interface Cable	Cabletron Part Number
20-foot E1 Line Interface Cable	9372095-20 ¹
E1 Line Interface Cable	9372095-L ²

- 1. Standard 20-foot E1 Line Interface Cable.
- 2. (L denotes length required in feet or meters). For example: 9372095-3 denotes a 3-foot cable; 9372095-3M denotes a 3-meter cable.

The following table provides connector information for the SWPIM-E1 interface cable.

Table A-3 SWPIM-E1 Connector Information

Cabletron Systems interface cable part number	9372095-L
Description	E1 line interface cable
Connector 1	RJ45
Connector 2	RJ45

A.4 ENVIRONMENTAL REQUIREMENTS

Operating Temperature:	+5° to +40°C (41° to 104°F)
Non-operating Temperature:	-30° to +90°C (-22° to 194°F)
Operating Humidity:	5% to 90% (Non-condensing)

A.5 REGULATORY COMPLIANCE

Safety	EN 60950, IEC 950, 73/23/EEC
EMI	EN 55022 Class A, VCCI V-3, EN 50082-1, AS/NZS 3548,89/336/EEC
Electromagnetic Compatibility (EMC)	Meets the EMC requirements of EN 50082-1 including: IEC 801-2 (ESD), IEC 801-3 (Radiated Susceptibility), and IEC 801-4 (EFT/B)
Telecom	CTR4, CTR12, TS014

